

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (cancelled)

10. (Currently Amended) Microwave antenna consisting of a closed slot produced on a first metallized face of a substrate, the slot being fed via a feed line and operating at a given frequency, ~~it includes~~ including a bandgap filtering structure (PBG) consisting of periodic metal patterns elements produced on a second face of the substrate opposite the first face, said ~~patterns elements~~ elements facing the slot being periodically spaced and having identical surface to form a photonic bandgap structure and determining a bandgap frequency.

11. (Currently Amended) Microwave antenna according to claim 10, wherein the periodicity of the ~~patterns elements~~ of the PBG structure is chosen so that the bandgap frequency is equal to one of the harmonics of the operating frequency of the closed slot.

12. (Currently Amended) Microwave antenna according to claim 10, wherein the periodicity of the ~~patterns elements~~ of the PBG structure is chosen so that the bandgap frequency is greater than the operating frequency of the closed slot.

13. (Previously Presented) Microwave antenna according to claim 10, wherein the closed slot is an annular slot.

14. (Previously Presented) Microwave antenna according to claim 10, wherein the slot is fed through a slot-line transition via a feed line produced in microstrip technology.

15. (Previously Presented) Antenna according to claim 14, wherein an additional photonic bandgap structure is produced beneath the feed line in microstrip technology by demetallizing the face of the substrate opposite that receiving the feed line.

16. (Currently Amended) A Vivaldi microwave antenna, formed by a tapered slot including a ~~photonic bandgap~~ filtering structure (PBG) consisting of ~~periodic~~ metal ~~patterns~~ elements produced on a second face of the substrate opposite the first face, said ~~patterns~~ elements facing the slot ~~and being periodically spaced and having identical surface to form a photonic bandgap structure~~ determining a bandgap frequency.

17. (Previously Presented) Antenna according to claim 16, wherein the photonic bandgap structure is produced along at least one of the profiles of the tapered slot constituting the Vivaldi antenna.

18. (Previously Presented) Antenna according claim 16, wherein the Vivaldi antenna is fed through a slot-line transition via a feed line produced in microstrip technology.

19. (Previously Presented) Antenna according to claim 18, wherein an additional photonic bandgap structure is produced beneath the feed line by demetallizing of the face of the substrate opposite that receiving the line.

20. (Currently Amended) A ~~photonic bandgap (PBG)~~ filtering structure on a microwave device formed by a slot produced on a first metallized face of a substrate, said structure comprising ~~periodic~~ metal ~~patterns~~ elements on a second face of the substrate opposite the first face receiving the slot, said ~~patterns~~ elements facing the slot ~~and being periodically spaced and having identical surface to form a photonic bandgap structure~~ determining a bandgap frequency.

21. (Currently Amended) Structure according to claim 20, wherein the periodicity between two ~~patterns~~ elements is equal to $k\lambda_g/2$ where λ_g is the wavelength of the wave guided in the slot at the chosen bandgap frequency and k is an integer.

22. (Currently Amended) Structure according to claim 20, wherein the bandgap frequency has a width and a depth depending on the equivalent area of the periodic ~~patterns~~ elements.

23. (Currently Amended) Structure according to claim 20, wherein the ~~patterns~~ elements are formed from discs, squares, rings or H shaped elements.